PATENT COOPERATION TREATY

PCT

TRANSLATION INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference				
R 44448	FOR FURTHER ACTION	See Form PCT/IPEA/416		
International application No.	International filing date (day/month/year	r) Priority date (day/month/year)		
PCT/AT2004/000363	21.10.2004	23.10.2003		
International Patent Classification (IPC) or nat	ional classification and IPC			
B23K9/09				
Applicant				
FRONIUS INTERNATIONA	L GMBH			
This report is the international preli under Article 35 and transmitted to the		y this International Preliminary Examining Authority		
2. This REPORT consists of a total of		cluding this cover sheet.		
This report is also accompanied by A				
a. (sent to the applicant and	l to the International Bureau) a total of	sheets, as follows:		
, , , , , , , , , , , , , , , , , , , ,		been amended and are the basis for this report and/or		
		see Rule 70.16 and Section 607 of the Administrative		
		ty considers contain an amendment that goes beyond		
the disclosure in th Box.	e international application as filed, as ind	licated in item 4 of Box No. I and the Supplemental		
b. (sent to the International	Bureau only) a total of (indicate type and	number of electronic carrier(s))		
related thereto, in compute	, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see			
Section 802 of the Administrative Instructions).				
4. This report contains indications relati	ing to the following items:			
Box No. I Basis of the	report			
Box No. II Priority				
Box No. III Non-establi	ishment of opinion with regard to novelty,	inventive step and industrial applicability		
Box No. IV Lack of uni				
		o novelty, inventive step or industrial applicability;		
	citations and explanations supporting such statement			
Box No. VI Certain doc	Box No. VI Certain documents cited			
Box No. VII Certain def	ects in the international application			
Box No. VIII Certain obs	servations on the international application			
Date of submission of the demand	Date of completio	n of this report		
Name and mailing address of the IPEA/EP	Authorized officer	r		
_				
Facsimile No.	Telephone No.			

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/AT2004/000363

Вох	No. I	Basis of the report		
1.		n regard to the language , this report is based on the internaticated under this item.	onal application in the language in	which it was filed, unless otherwise
		This report is based on translations from the original languments which is the language of a translation furnished for the pur		,
		international search (Rule 12.3 and 23.1(b))		
		publication of the international application (Rule 12.	4)	
		international preliminary examination (Rule 55.2 and		
2.	recei	n regard to the elements of the international application, thi iving Office in response to an invitation under Article 14 a report):		
		the international application as originally filed/furnished		
	\boxtimes	the description:		
		pages <u>1-17</u>		as originally filed/furnished
		pages*	received by this Authority on	
		pages*	_ received by this Authority on	
	\boxtimes	the claims:		
		nos.		as originally filed/furnished
		nos.*	as amended (together	
		nos.* 1-24	_ received by this Authority on _	23.05.2005 with letter of 20.05.2005
		nos.*	received by this Authority on	
	\boxtimes	the drawings:		
		sheets _ 1/4-4/4		as originally filed/furnished
		sheets*	_ received by this Authority on _	
		sheets*	_ received by this Authority on _	
		a sequence listing and/or any related table(s) – see Suppler	nental Box Relating to Sequence Li	isting.
3.		The amendments have resulted in the cancellation of:		
		the description, pages		
		the claims, nos.		
		the drawings cheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
4.		This report has been established as if (some of) the amenthey have been considered to go beyond the disclosure as a		
		the description, pages		
		the claims, nos.		
		the drawings, sheets/figs		
		the sequence listing (specify):		
		any table(s) related to sequence listing (specify):		
*	If ite	em 4 applies, some or all of those sheets may be marked "su	perseded."	

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/AT2004/000363

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement			
1. Statement			
Novelty (N)	Claims	1-24 YES	s
	Claims	NO	
Inventive step (IS)	Claims	1-24 YES	S
	Claims	NO NO	
Industrial applicabil	ity (IA) Claims	1-24 YES	s
	Claims	NO	
Citations and explanation	ons (Rule 70.7)		_
This	report mak	es reference to the following	
docume	ents:		
Ι	01: EP-A	A-0 478 796 (DAIHEN CORP) 8 April	
	1992	2 (1992-04-08)	
Ι	D2: PATE	ENT ABSTRACTS OF JAPAN Vol. 010, No.	
	126	(M-477), 10 May 1986 (1986-05-10) &	
	JP 6	00 255276 A (MITSUBISHI JUKOGYO KK),	
	16 [December 1985 (1985-12-16)	
Ι	D3: PATE	ENT ABSTRACTS OF JAPAN Vol. 1995, No.	
	04,	31 May 1995 (1995-05-31) & JP 07	
	0091	49 A (MATSUSHITA ELECTRIC IND CO	
	LTD)	, 13 January 1995 (1995-01-13)	
Ι	04: SCHM	AIDT K-P: "NEW REGULATION SYSTEM FOR	
	DOUE	BLE-PULSE GAS SHIELDED METAL-ARC	
	WELD	DING" WELDING AND CUTTING, DEUTSCHER	
	VERI	LAG FUER SCHWEISSTECHNIK, DUSSELDORF,	
	DE,	No. 3, 2002, page 117, XP001161394	
Ι		12 28 589 A (REHM SCHWEISTECHNIK	
		H) 3 March 1994 (1994-03-03)	
Ι		197 38 785 A (LEIPOLD & CO GMBH) 1	
	_	11 1999 (1999-04-01)	
Ι		00/64620 A (ARTELSMAIR JOSEF; FRONIUS	
	SCHW	WEISSMASCH PROD (AT)) 2 November 2000	

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

(2000-11 -02)

- 1. The subject matter of claims 1 and 15 is novel and inventive (PCT Article 33(2) and (3)).
- 1.1 A method and a welding device like those defined in the preamble of claim 1 and claim 15 are known from the prior art; see, for example, D1 to D4.
- 1.2 The problem to be solved by the present invention can be regarded as that of developing a method for controlling and/or regulating a welding process or a welding current source wherein the thermal balance for introducing heat into the workpiece is set and/or regulated or can be controlled. Another problem to be solved by the present application is that of creating a welding device by means of which the thermal balance for introducing heat into the workpiece can be set and/or regulated or controlled.
- 1.3 Although documents D1 to D4 disclose a welding process (MAG welding) wherein at least one welding process phase having a high level of energy introduction is cyclically combined with a welding process phase having a low level of energy introduction, they do not disclose that the welding process phase having a low level of energy introduction

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

used is a cold metal transfer phase.

D6 and D7 each disclose a welding process wherein the energy introduction takes place by means of a cold metal transfer phase. The problem to be solved in D6 is that of forming droplets, improving the transfer of the droplet from a melting electrode to the workpiece, and improving the bath formation, whereas the problem to be solved in D7 is that of producing a method and a device for igniting and maintaining an electric arc whereby the quality of the welding process is improved.

None of the available documents would prompt a person skilled in the art to combine documents D1 to D4 with D6 or D7 in order to solve the problem indicated in point 1.2.

Claims 2 to 14 and 16 to 24 are dependent on claims 1 and 15, respectively, and therefore likewise meet the PCT requirements for novelty and inventive step.

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Box No. VII Certai	in defects in the international application		
The following defects in the form or contents of the international application have been noted:			
1.	Contrary to the requirements of PCT Rule		
	5.1(a)(ii), the description neither cites		
	documents D1 to D4 and D6 to D7 nor indicates		
	the relevant prior art contained therein.		